the oxidation layer on the dielectric layer, as defined by claim 1, that cures defects (e.g., seals pinholes, etc.) present in the dielectric layer, thereby resulting in a decrease in the amount of current "leaking" from one capacitor electrode to the other capacitor electrode.

Similarly, claim 40 recites "depositing a layer of silicon nitride over a conductive layer" and "contacting said silicon nitride layer with hydrogen, oxygen and nitrous oxide gases so as to form an oxidation layer over said silicon nitride layer."

None of the cited references, taken alone or in combination, teach or suggest that hydrogen, oxygen and nitrous oxide gases contact a dielectric layer so as to form an oxidation layer thereon. For example, Cho discloses "processing" the surface of a dielectric layer 48 using a plasma 50 to improve the electrical characteristics of the capacitor. Cho proposes to process the surface using a plasma generated by electron cyclotron resonance (ECR). Cho goes on to state that ECR plasma is preferred over RF plasma since damage caused to a material by ECR plasma is typically less than the amount of damage caused by RF plasma. Nowhere does Cho teach or suggest that an oxidation layer be formed on a dielectric layer by contacting the dielectric layer with a combination of gases, as defined by claim 1.

The Office Action also points to Kamiyama as disclosing the claimed invention. However, Kamiyama actually discloses forming a tantalum oxide film through thermochemical reaction involving organic tantalum charge gas, hydrogen gas and oxygen gas, and *subsequently* forming a tantalum oxide film through plasma chemical reaction involving tantalum halogenide charge gas, hydrogen gas and nitrous oxide gas (Kamiyama, claim 2). Nowhere does Kamiyama teach or suggest contacting a dielectric layer with hydrogen, oxygen and nitrous oxide so as to form an oxidation layer thereon, as defined by claim 1.

The Office Action also points to Miner and Schuegraf as disclosing forming a nitride layer, then introducing a mixture of hydrogen, oxygen and nitrous gases. However,

Applicants respectfully point out that this is not an accurate characterization of the teachings of these references. For example, Miner actually discloses introducing a hydrogen-containing gas (e.g., H_2) and an oxygen-containing gas (e.g., O_2) (Miner, column 5, lines 11-15) without any mention of combining hydrogen, oxygen and nitrous gases to form an oxidation layer on a dielectric layer. Similarly, Schuegraf is also not accurately characterized. Schuegraf actually discloses introducing one of several oxygen-containing gases (Schuegraf, column 6, line 45), and does not teach or suggest combining hydrogen, oxygen and nitrous gases to form an oxidation layer on a dielectric layer.

Claims 2-39 and 41-59 define specific conditions for carrying out the methods defined by claims 1 and 40. Furthermore, claims 2-39 and 41-59 depend either directly or indirectly from claims 1 and 40 and are allowable at least for those reasons described above and also because none of the cited references taken alone or in combination teach or suggest their respective inventive combinations.

In view of the above, each of the presently pending claims in this application is believed to be in immediate condition for allowance. Accordingly, the Examiner is respectfully requested to withdraw the outstanding rejections of the claims and to pass this application (with claims 1-59) to issue.

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Respectfully submitted,

By________________________

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